

## What is claimed:

1. A method of identifying a neural progenitor cell, comprising:  
5 providing a sample of cells or tissue; and  
evaluating the level of expression of Daedalos in a cell of the sample,  
wherein if the cell has a higher level of expression of Daedalos as compared to a  
control, it is identified as a neural progenitor cell.

10 2. The method of claim 1, wherein evaluating the level of expression of Daedalos  
comprises detecting Daedalos mRNA.

15 3. The method of claim 1, wherein evaluating the level of expression of Daedalos  
comprises detecting Daedalos protein.

4. The method of claim 1, wherein the sample of cells or tissue contains neural  
progenitor cells and non-neural progenitor cells.

5. The method of claim 1, wherein the sample is neural cells or tissue.

20 6. A method of identifying the stage of neurogenesis of a cell, comprising:  
evaluating the level of expression of Daedalos in the cell,  
wherein if the cell has a higher level of expression of Daedalos as compared to a  
control, it is identified as a neural progenitor cell and if the cell has a lower level of  
expression of Daedalos as compared to a control, it is identified as a differentiated cell.

25 7. The method of claim 6, further comprising the step of isolating a first cell, based upon  
its stage of neurogenesis, from a second cell characterized by a different stage of  
neurogenesis.

30 8. The method of claim 6, wherein evaluating the level of expression of Daedalos  
comprises detecting Daedalos mRNA.

9. The method of claim 6, wherein evaluating the level of expression of Daedalos comprises detecting Daedalos protein.

5 10. A method of modulating cell differentiation, comprising:  
providing a cell; and  
modulating expression, levels or activity of Daedalos in the cell, to thereby modulate differentiation of the cell.

10 11. The method of claim 10, wherein the cell is maintained in a non-differentiated state or differentiation is inhibited, comprising administering to a cell an agent that increases Daedalos activity, levels or expression.

15 12. The method of claim 11, wherein the agent is selected from the group consisting of: a Daedalos polypeptide or functional fragment or analog thereof; a nucleic acid encoding a Daedalos polypeptide or functional fragment or analog thereof; a nucleic acid that increases expression of the endogenous Daedalos gene of the cell; and a small molecule that increases expression of the endogenous Daedalos gene of the cell.

20 13. The method of claim 11, wherein the cell is a neural progenitor cell or neural stem cell.

14. The method of claim 11, wherein Daedalos expression, levels or activity is increased in the presence of neural growth factor.

25 15. The method of claim 11, wherein the agent is administered *in vivo*.

16. The method of claim 11, wherein the agent is administered *in vitro*.

30 17. The method of claim 10, wherein differentiation of the cell is promoted, comprising administering to a cell an agent that decreases Daedalos activity, levels or expression.

18. The method of claim 17, wherein the agent is selected from the group consisting of:  
a Daedalos binding protein that inhibits a Daedalos activity; an antibody to Daedalos that  
inhibits a Daedalos activity; a mutated Daedalos or fragment thereof that inhibits a Daedalos  
activity; a Daedalos nucleic acid molecule that inhibits expression of Daedalos; and a small  
molecule that inhibits transcription or activity of Daedalos.

19. The method of claim 17, wherein the cell is a neural progenitor cell or neural stem  
cell.

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20. The method of claim 17, wherein Daedalos expression, levels or activity is decreased  
in the presence of neural growth factor.

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21. The method of claim 17, wherein the agent is administered *in vivo*.

22. The method of claim 17, wherein the agent is administered *in vitro*.

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23. A method of determining if a subject is at risk for a neural cell related disorder,  
comprising evaluating the level of expression, protein or activity of Daedalos in a cell of the  
subject, wherein an aberrant level of Daedalos expression, protein or activity compared to a  
control is indicative of risk for a neural cell related disorder.

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24. The method of claim 23, wherein the cell of the subject is derived from neural tissue.

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25. The method of claim 23, wherein the cell exhibits an increased level of Daedalos  
expression, protein or activity compared to a control.

26. The method of claim 25, wherein the neural cell related disorder is a proliferative  
disorder.

27. A method of obtaining a population of neural cells, comprising:  
providing a neural progenitor cell;  
inhibiting the expression, levels or activity of Daedalos in the neural  
progenitor cell; and  
5 allowing the neural progenitor cell to divide, to thereby obtain a population of  
neural cells.

28. The method of claim 27, wherein the expression, levels or activity of Daedalos is  
inhibited by contacting the cell with a compound selected from the group consisting of: a  
10 Daedalos binding protein that inhibits a Daedalos activity; an antibody to Daedalos that  
inhibits a Daedalos activity; a mutated Daedalos or fragment thereof that inhibits a Daedalos  
activity; a Daedalos nucleic acid molecule that inhibits expression of Daedalos; and a small  
molecule that inhibits transcription or activity of Daedalos.

29. A method of treating a neural cell related disorder in a subject, comprising:  
providing a subject having a neural cell related disorder; and  
modulating expression, levels or activity of Daedalos in a cell of the subject,  
to thereby treat the disorder.

30. The method of claim 29, wherein expression, levels or activity of Daedalos is  
inhibited.

31. The method of claim 30, wherein the expression, levels or activity of Daedalos is  
inhibited by administering to the subject an agent selected from the group consisting of: a  
25 Daedalos binding protein that inhibits a Daedalos activity; an antibody to Daedalos that  
inhibits a Daedalos activity; a mutated Daedalos or fragment thereof that inhibits a Daedalos  
activity; a Daedalos nucleic acid molecule that inhibits expression of Daedalos; and a small  
molecule that inhibits transcription or activity of Daedalos.

30 32. The method of claim 30, wherein the disorder is cancer.

33. The method of claim 29, wherein expression, levels or activity of Daedalos is increased.

34. The method of claim 33, wherein the agent is selected from the group consisting of:  
5 a Daedalos polypeptide or functional fragment or analog thereof; a nucleic acid encoding a Daedalos polypeptide or functional fragment or analog thereof; a nucleic acid that increases expression of the endogenous Daedalos gene of the cell; and a small molecule that increases expression of the endogenous Daedalos gene of the cell.

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